

Having described the invention, we claim the following:

1. A vehicle occupant protection device for helping to protect an occupant of a seat of a vehicle, the vehicle occupant protection device comprising:

first and second seat belts;

first and second load limiters associated with the first and second seat belts, respectively;

at least one sensor for sensing a characteristic of at least one of the occupant and the vehicle; and

a controller that is responsive to the at least one sensor for controlling the first and second load limiters.

2. The vehicle occupant protection device of claim 1 wherein each of the first and second load limiters is controllable for providing first and second levels of load limiting, the controller being responsive to the at least one sensor for controlling the level of load limiting of the first and second load limiters.

3. The vehicle occupant protection device of claim 2 wherein the first seat belt is a first shoulder belt and the first load limiter forms a part of a first shoulder belt retractor and wherein the second seat belt is a second shoulder belt and the second load limiter forms a part of a second shoulder belt retractor.

4. The vehicle occupant protection device of claim 2 wherein the at least one sensor includes at least one vehicle crash sensor for sensing a vehicle condition indicating the occurrence of a crash condition and for providing a vehicle crash signal to the controller, the controller being responsive to vehicle crash signal for controlling the levels of the first and second load limiters.

5. The vehicle occupant protection device of claim 4 wherein the at least one vehicle crash sensor is adapted to sense both a severity and a direction of a vehicle impact and the vehicle crash signal indicates both the severity and the direction, the controller being responsive to both the severity and the direction

of the vehicle impact for controlling the levels of the first and second load limiters.

6. The vehicle occupant protection device of claim 2 wherein the at least one sensor includes a weight sensor for sensing a weight of the occupant and providing a weight signal indicative of the sensed weight, the controller being responsive to sensed weight for controlling the levels of the first and second load limiters.

7. The vehicle occupant protection device of claim 6 wherein the weight sensor is operative for sensing a distribution of weight on the seat and the weight signal also indicates the sensed distribution, the controller being responsive to the sensed distribution for controlling the levels of the first and second load limiters.

8. The vehicle occupant protection device of claim 2 wherein the at least one sensor includes a first payout sensor associated with the first seat belt for sensing a withdrawn length of the first seat belt and providing a first payout signal indicative of the

sensed withdrawn length, the vehicle occupant protection device further including a second payout sensor associated with the second seat belt for sensing a withdrawn length of the second seat belt and providing a second payout signal indicative of the sensed withdrawn length, the controller being responsive the first and second payout signals for controlling the levels of the first and second load limiters.

9. The vehicle occupant protection device of claim 2 wherein the at least one sensor includes an occupant position sensor for sensing a position of the occupant relative to the seat and for providing a position signal indicative of the sensed position, the controller being responsive to the position signal for controlling the levels of the first and second load limiters.

10. The vehicle occupant protection device of claim 2 wherein the at least one sensor is adapted to provide a signal indicative of a classification of the occupant of the seat, the controller being responsive

to the classification of the occupant for controlling the levels of the first and second load limiters.

11. A method of controlling a vehicle occupant protection device associated with a seat of a vehicle, the vehicle occupant protection device having first and second seat belts and first and second load limiters that are associated with the first and second seat belts, respectively, the method comprising the steps of:

sensing a characteristic of at least one of an occupant of the seat and the vehicle;

controlling the first load limiter in response to the sensed characteristic; and

controlling the second load limiter in response to the sensed characteristic.

12. The method of claim 11 wherein each of the first and second load limiters is controllable for providing first and second levels of load limiting and wherein the step of controlling the first load limiter in response to the sensed characteristic further includes the step of controlling the level of load limiting of the first load limiter and wherein the step

of controlling the second load limiter in response to the sensed characteristic further includes the step of controlling the level of load limiting of the second load limiter.

13. The method of claim 12 wherein the first seat belt is a first shoulder belt and the second seat belt is a second shoulder belt and wherein the step of controlling the level of load limiting of the first load limiter includes the step of determining a desired load limiting level for the first shoulder belt and wherein the step of controlling the level of load limiting of the second load limiter includes the step of determining a desired load limiting level for the second shoulder belt.

14. The method of claim 12 wherein the step of sensing a characteristic of at least one of an occupant of the seat and the vehicle includes the step of sensing both a severity and a direction of a vehicle impact.

15. The method of claim 12 wherein step of sensing a characteristic of at least one of an occupant

of the seat and the vehicle includes the step of sensing a weight of the occupant.

16. The method of claim 15 wherein the step of sensing a weight of the occupant further includes the step of sensing a distribution of weight on the seat.

17. The method of claim 12 wherein the step of sensing a characteristic of at least one of an occupant of the seat and the vehicle includes the steps of sensing a withdrawn length of the first seat belt and sensing a withdrawn length of the second seat belt.

18. The method of claim 12 wherein the step of sensing a characteristic of at least one of an occupant of the seat and the vehicle includes the step of sensing a position of the occupant relative to the seat.

19. The method of claim 12 wherein the step of sensing a characteristic of at least one of an occupant of the seat and the vehicle further includes the step of determining a classification of the occupant of the seat.